

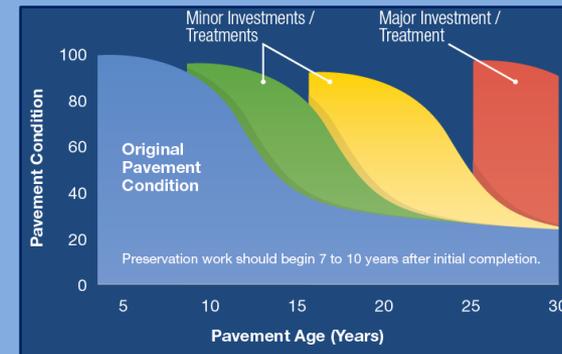
# Today's Presentation

- History of Pavement Management
  - Established, Reputable, Proven Results
- Pavement Management Going Forward
  - Good Roads Cost Less
  - Region, Managing to Goals and Targets
- Efficiency Program
  - Management of other Assets
- Gas Tax
  - New Opportunities
  - Level 2 Roads
  - Long Term all Roads Managed Pro-actively

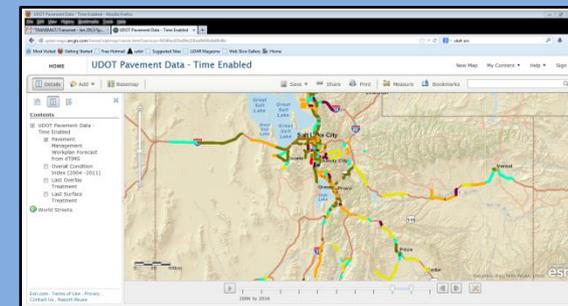
# Pavement Management Time Line

*“It Is A Journey”*

- 1977 – “Good Roads Costs Less”
- 1992 – “A Plan for Every Section of Every Road”
- 1992 – Began Pavement Software Development (dTIMS)



Good Roads Costs Less



A Plan of Every Section of Every Road



Began dTIMS Development

# Pavement Management Time Line

## *“It Is A Journey”*

- 1977 – “Good Roads Costs Less”
- 1992 – “A Plan for Every Section of Every Road”
- 1991 – Began dTIMS Development
- 2002 – DB, I-15, Olympics, Asset Management Division
- 2007 – Pavement Distress Survey - Contracted with Industry
- 2008 – Maintenance Management Levels



DB, I-15 > Olympics > Asset Management



Continuous Pavement Distress Surveys

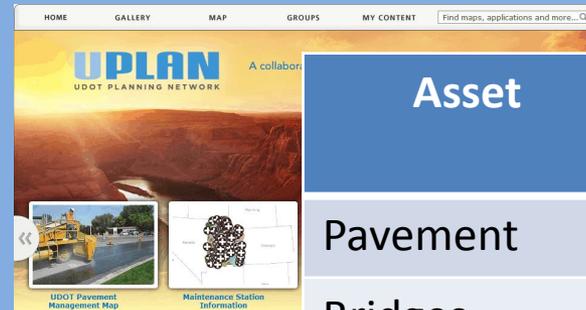


Maintenance Management Levels

# Pavement Management Time Line

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- 2002 – DB, I-15, Olympics, Asset Management Division
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- 2008 – Maintenance Management Levels
- 2011 – Created UPlan
- 2012 – Inventoried all Above Ground Features
- 2016 – HB 362 Increased Gas Tax



UPlan

Tiers 1, 2, 3

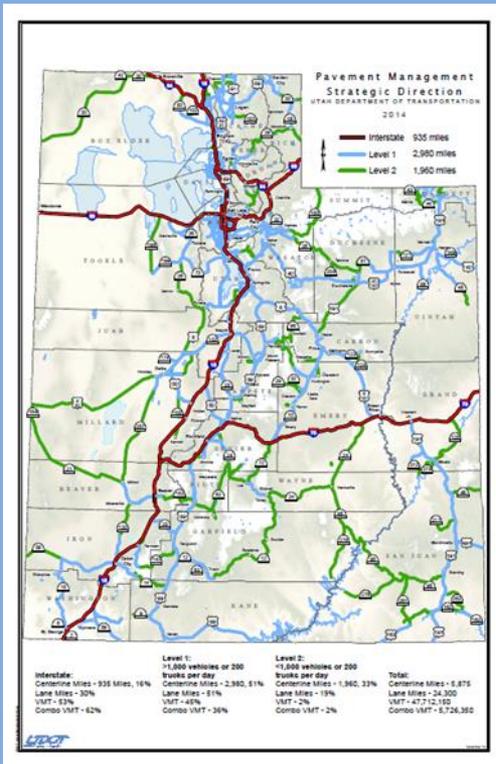


HB 362

Asset	Value
Pavement	\$24B
Bridges	\$ 5B
Pipe Culverts	\$ 1B*
Walls	\$ 3.4B
Barrier	\$450M
Signs	\$300M
Signal Systems	\$353M
Interstate Lighting	\$ TBD
Rumble Strips	\$ 6M
ATMS Devices	\$440M
ADA Ramps	\$ 20M

\* Partial Inventory

# UDOT Pavement Management Plan for Every Section of Every Road



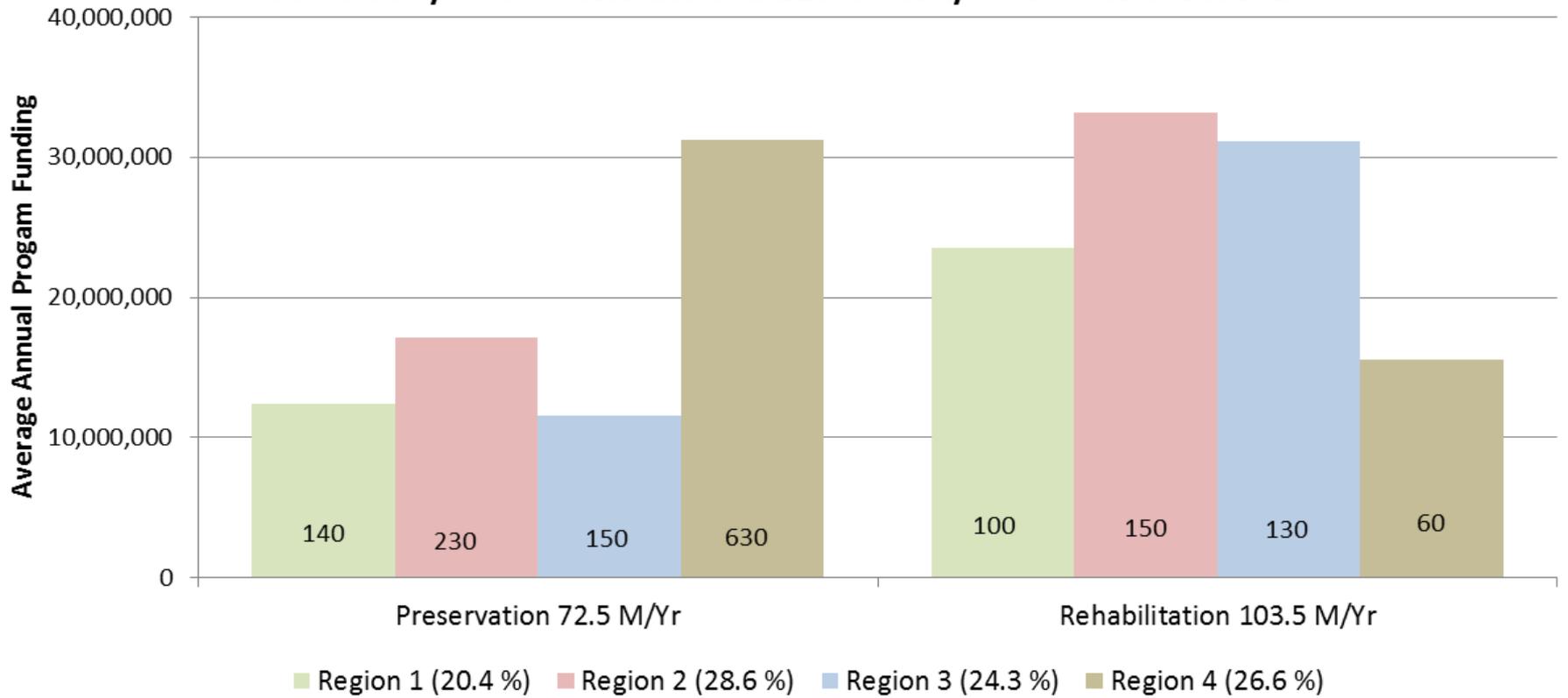
- Proactive Manage of all Pavements
- Maintenance Management
  - Interstate, Level 1, Level 2
- Pavement Sections – 1,446
  - Ea. has a different History, Condition, Strategy
- Project Optimization
  - Greatest Benefit – Lowest Cost, & Risk
  - Reconstruct, Preservation, etc.
- Asset Management Steering Committee

[Pavement Management](#)

# Pavement Management Going Forward

- Central
  - Model
    - Distribute Funding to Region
    - Determine Required Surface Areas
    - Recommend Projects by Road Type (Interstate, NHS, etc.)
    - Recommend Projects by Preservation, Rehabilitation, & Major Rehabilitation
    - Forecast Future Conditions
- Region
  - Managing/Reporting on Targets and Goals
    - Proposed Pavement Projects
    - Proposed Efficiencies Projects
    - Report on Surface Areas Completed
    - Report on Region Pavement Forecast Trends
    - Report on Efficiency Projects Accomplished
    - ***Forecast Future Pavement Conditions (Evolution)***

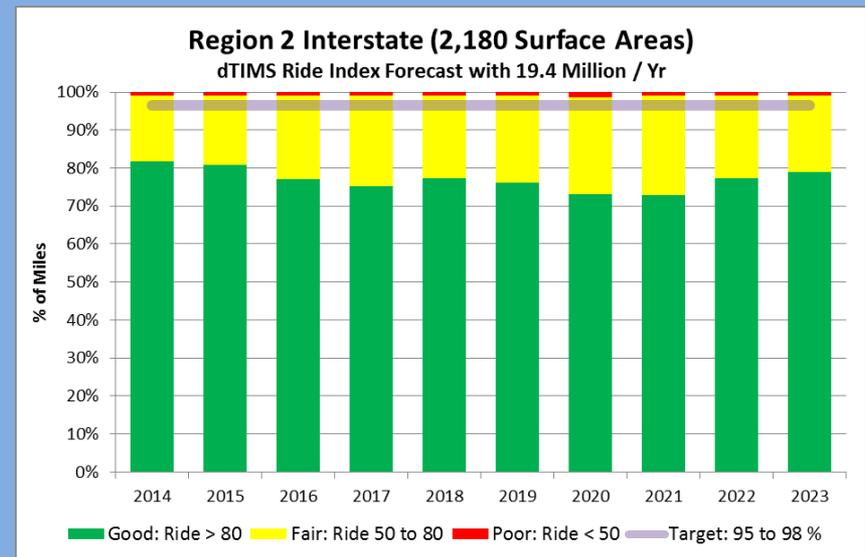
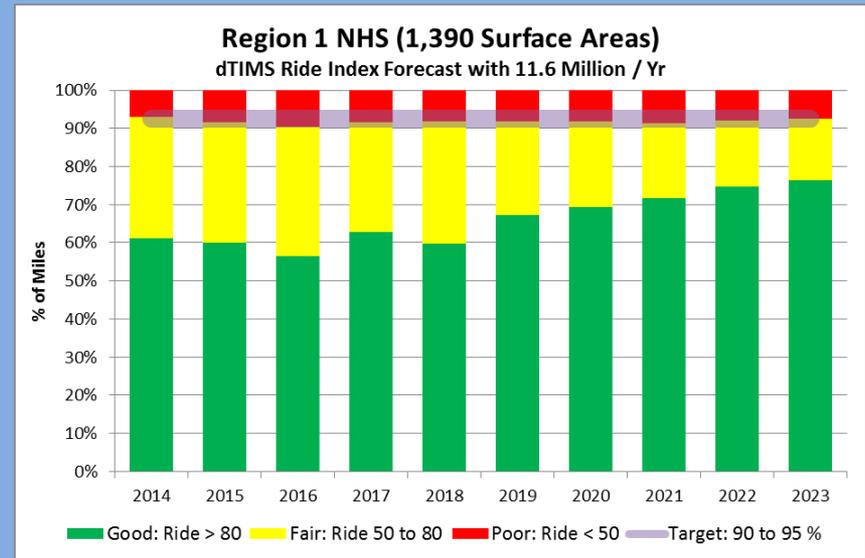
# 10 Year Average Region Allocation by Program from dTIMS with 50 Million/Yr for Interstate and 126 Million/Yr for NHS & Level 1



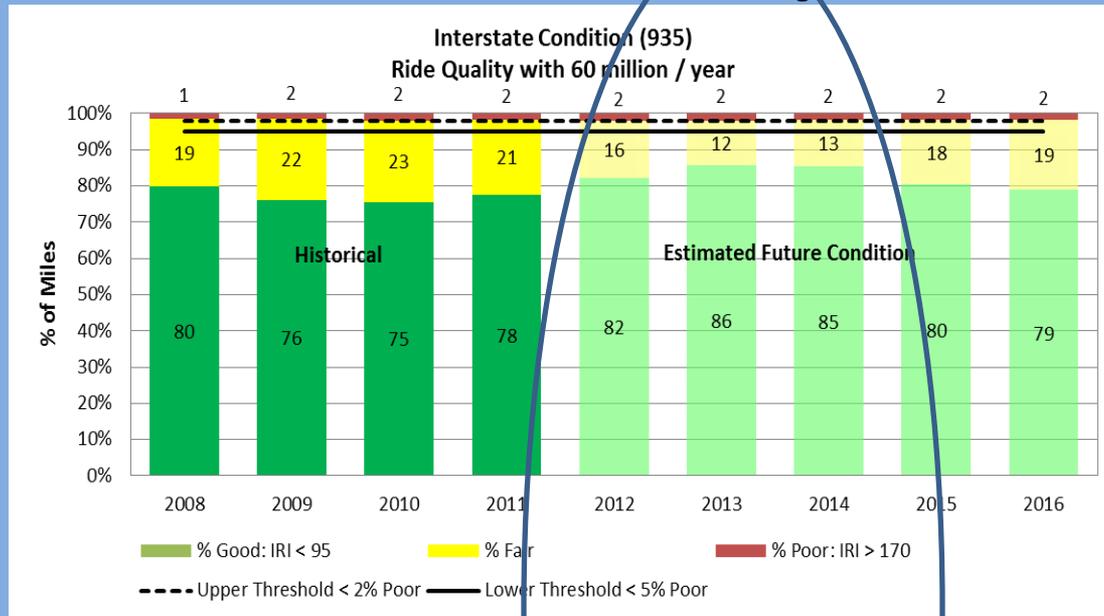
Data Labels show Average Surface Areas

# Region Pavement Forecasts

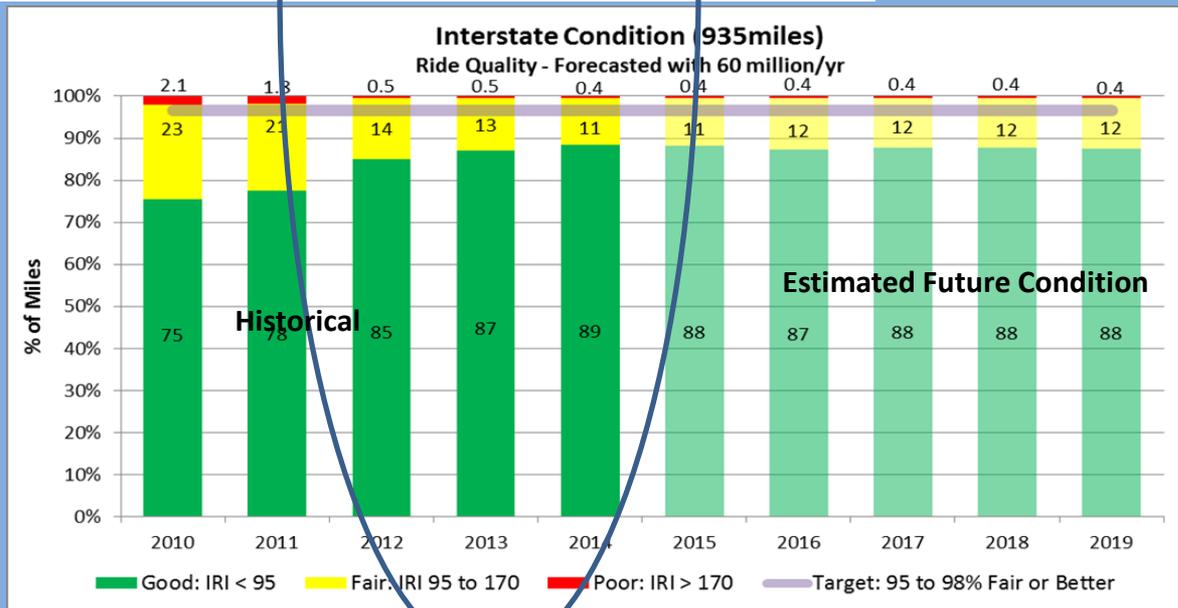
- Each Region will Manage Pavement IRI (Smoothness):
  - Interstate
  - National Highway System (NHS)
  - non NHS
  - Level 2 (Low Volume Roads)



# Interstate Comparison 2012 - 2014



- 4% of Interstate SA transferred from Fair/Poor to Good
- Or 290 SA
- Equivalent to 2 - 4 lane 29 mile roadways



# 2012 – 2014 Surface Areas Opportunity Costs

- 3 Year Period
  - Dtims, 4,385 S.A.
  - Regions
    - Original Program 4,385 S.A.
    - Efficiencies Additional 2652 S.A
    - TIF Projects 442 S.A.
  - Total S.A. 7460 S.A.
  - Percentage Increase 70.1%

Pavement Surface Areas												
	Central Programming	Region Program					Capacity Program	Surface Areas (Total, % Increase)		Change in Pavement Condition		
Year	Recommended Dtims	Preservation	Rehabilitation	Good Bids, Snow \$ (No Data)?	Avg. Dist. Redistribution (No Data)	Subtotal	Transportation Investment Fund	Total Surface Areas	% Surface Area Increase from Dtims Recommendation	Interstate	NHS	Level 2
2012	1,369.9	1,195.0	1,091.3	un to own	un to own	2,286.2	52.2	2,338.4	70.7%	885 SA (14%) Improved to Good Category	480 SA (7%) Improved to Good Category	240 SA (5%) Decreased to Poor Category
2013	1,778.0	1,024.9	1,538.0	*	*	2,562.9	270.0	2,832.9	99.3%			
2014	1,237.2	1,065.1	1,122.3	*	*	2,187.4	401.9	2,289.3	85.0%			
2015*												
<b>Subtotal - Total Surface Areas</b>	<b>4,385.2</b>	<b>3,285.0</b>	<b>3,751.6</b>			<b>7,036.6</b>	<b>424.1</b>	<b>7,460.6</b>	<b>70.1%</b>			
2016	1,590.0						72.7					
2017	1,590.0						67.8					
2018	1,590.0						81.0					
<b>Subtotal - Total Surface Areas</b>	<b>4,770.0</b>						<b>221.5</b>					

\* 2015 Season in progress, Surface Areas Not part of Calculations

- **290 Interstate S.A. improved from Fair/Poor to Good (4%)**
- **Transfer \$10M from Interstate Pavement to Bridge**

# Efficiency Program

- Regions
  - Pavement - Completed required SA, Maintain Targets
  - Submit for Approval List of Potential Projects
    - Examples: ATMS, Signs, Culverts, Signals, Curb & Gutter, etc.
  - Report on:
    - Pavement Program – SA, Targets, Roadway Type (NHS etc.)
    - Efficiency Projects Completed

# House Bill 362 Transportation Infrastructure Funding

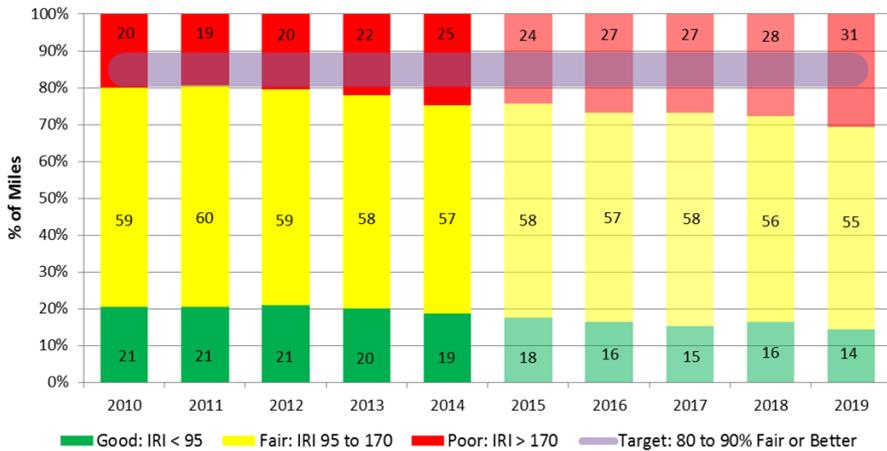
- State Gas Tax
  - Today
    - 24.50 - cents-per-gallon
  - January 1, 2016
    - 29.50 – cents-per-gallon
    - 4.9 -cent increase
- Estimate Additional Revenue – State Fiscal Year
  - 2016
    - \$17.14M
  - 2017
    - \$55M

# Reported to Legislators

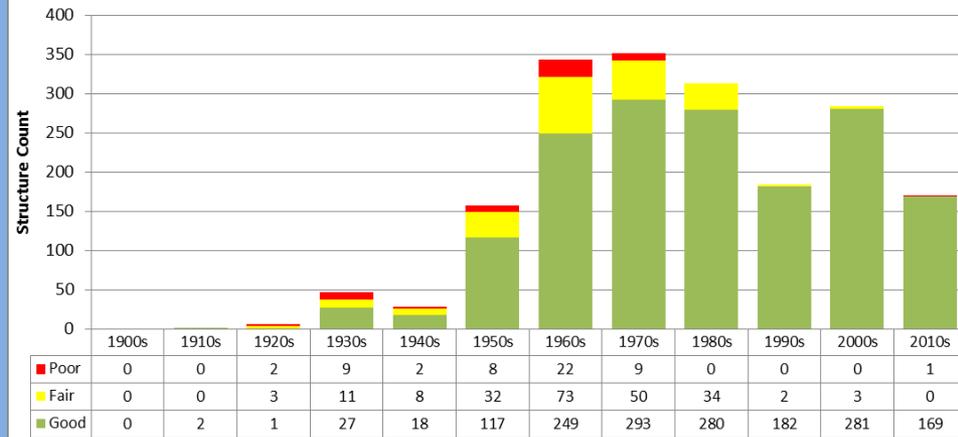
## State of Level 2 Roads

## State of Structures

**Level 2 System Condition (1,970 miles)**  
Ride Quality - Forecasted with 10 million/yr

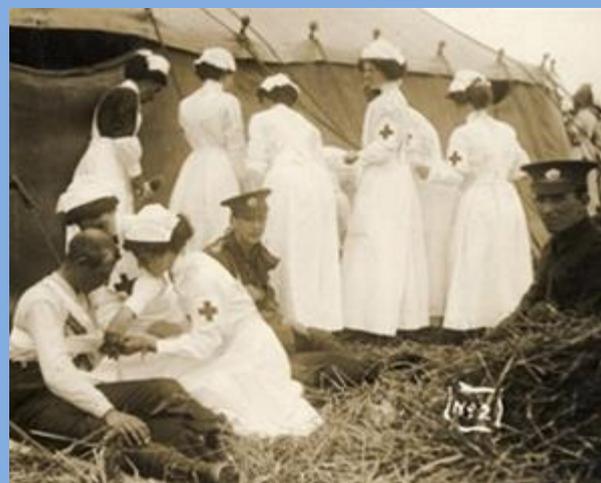


**Age Distribution of State Bridges**



# Triage\* - Level 2 Low Volume Roads

- Insufficient Resources
- Ration Preservation Treatment
- Determine Order and Priority
- Created Level 2 Roads

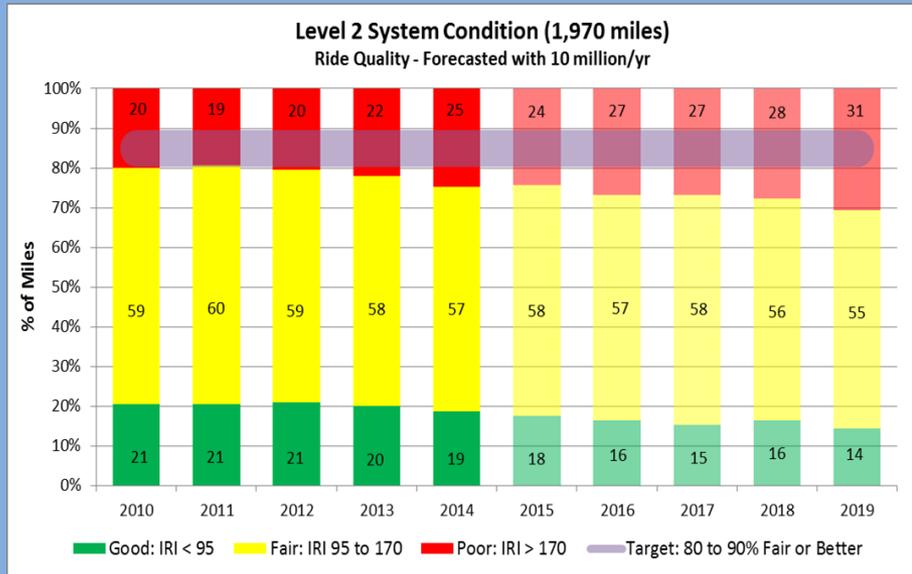


\*French verb meaning separate, select

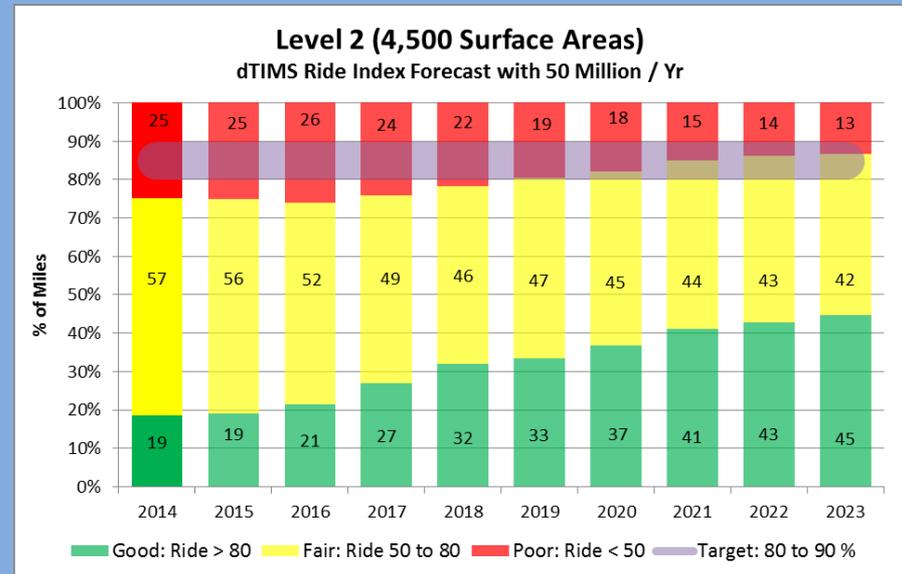
# Low Volume Roads

## Level 2

### \$10M Funding

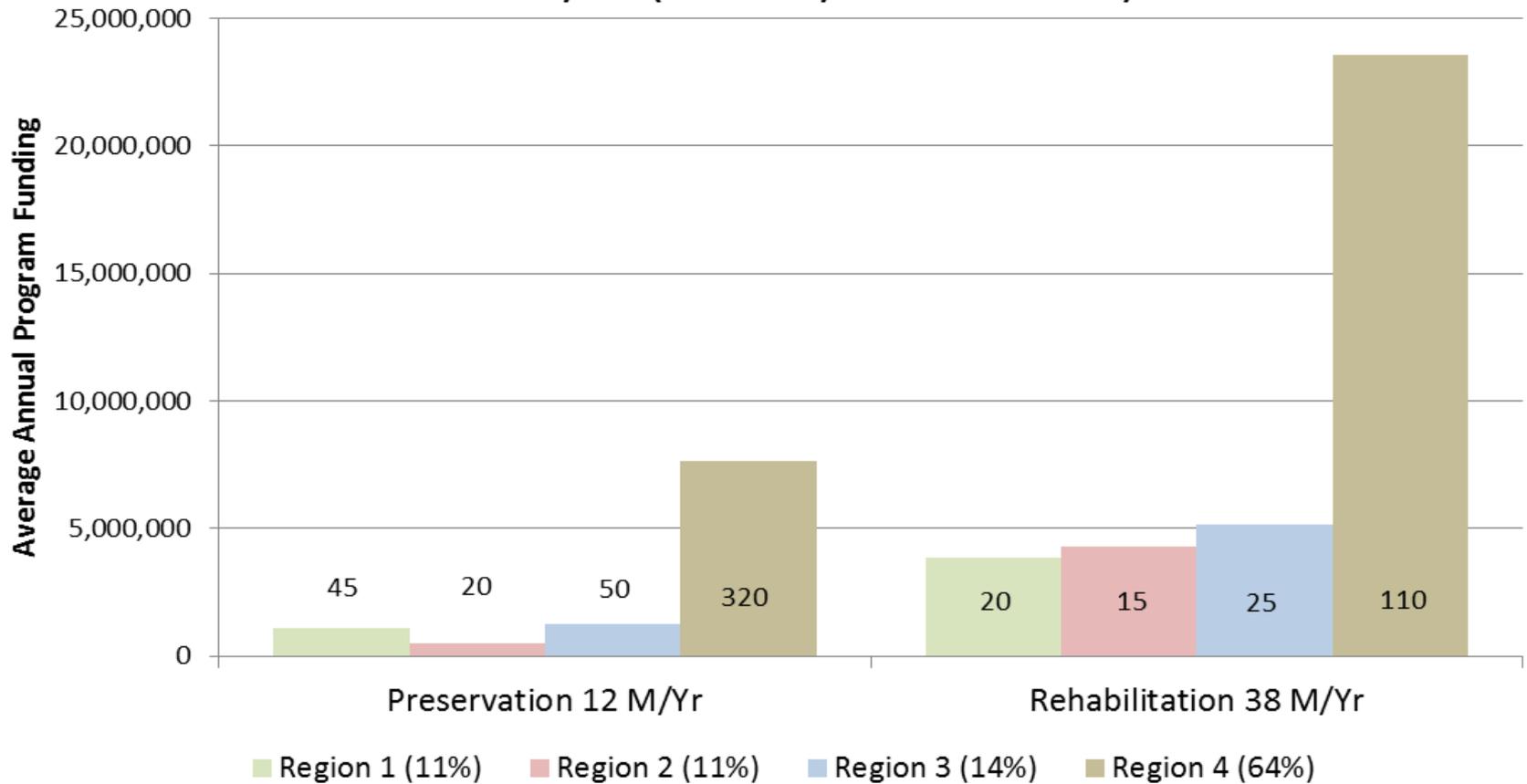


### \$50M Funding



# Low Volume Roads Level 2

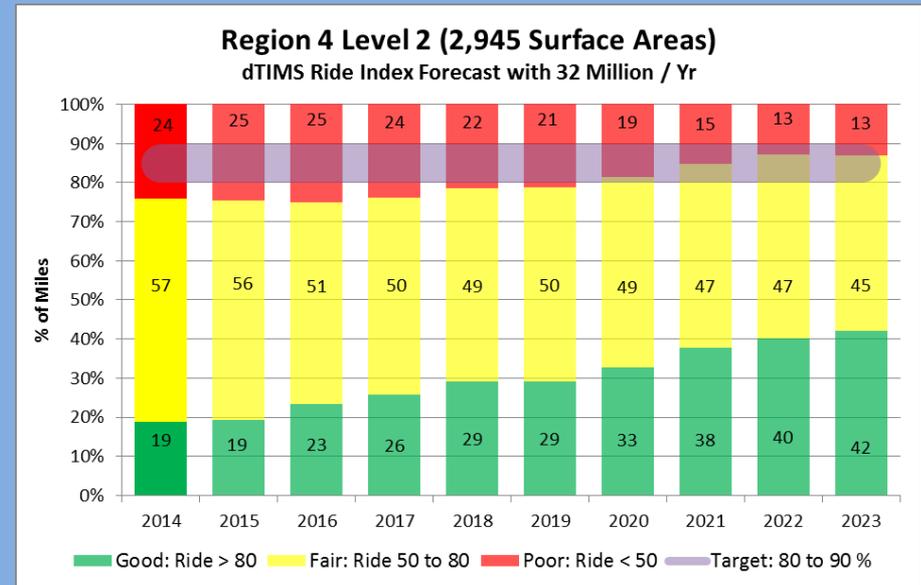
Level 2 Region Allocation by Program  
dTIMS 10 Yr Average with  
50 Million / Yr (10 Million / Yr Code 1 included)



Data Labels show Average Surface Areas

# Region Low Volume - Level 2 Pavement Forecasts

- Each Region will Manage to SA, Pavement Smoothness and Overall Condition



# Goals & Recommendation

- Track/Report on Projects, Goals and Trends
- Sustainable Pavement/Bridge Programs
- Elimination of a Level 2
  - Proactive Management of All Roads and Structures
- Additional Revenue (Estimated) – State Fiscal Year
  - 2016
    - \$17.14M (Level 2 Pavement)
  - 2017
    - \$40M (Level 2 Pavement)
    - \$15M Bridges